



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2020-1026; Project Identifier MCAI-2020-00745-R; Amendment 39-21418; AD 2021-03-15]

RIN 2120-AA64

Airworthiness Directives; Leonardo S.p.a. Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is superseding Airworthiness Directive (AD) 2020-13-02 for Leonardo S.p.A. (Leonardo) Model A119 and AW119 MKII helicopters. AD 2020-13-02 required inspecting for movement and the tightening torque of the tail rotor (T/R) plug, the installation of the outboard and inboard faces of the T/R duplex bearing, and the condition of the T/R duplex bearing, T/R plug threads, and nut threads. Depending on the inspection results, AD 2020-13-02 required corrective actions and reporting information. This new AD retains the requirements of AD 2020-13-02 except the reporting requirement, updates the service information, and requires repeating the inspection. This AD was prompted by Leonardo's update to the service information. The actions of this AD are intended to address an unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Leonardo S.p.A. Helicopters, Emanuele Bufano, Head of Airworthiness, Viale G. Agusta 520, 21017 C. Costa di Samarate (Va) Italy; telephone +39-0331-225074; fax +39-0331-229046; or at <https://www.leonardocompany.com/en/home>. You may view this referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. It is also available on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-1026.

Examining the AD Docket

You may examine the AD docket on the Internet at <https://www.regulations.gov> in Docket No. FAA-2020-1026; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the European Union Aviation Safety Agency (EASA) AD, any service information that is incorporated by reference, any comments received, and other information. The street address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: David Hatfield, Aviation Safety Engineer, Aircraft Systems Section, Technical Innovation Policy Branch, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone 817-222-5110; email david.hatfield@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to remove AD 2020-13-02, Amendment 39-21147 (85 FR 37551, June 23, 2020) (AD 2020-13-02), and add a new AD. AD 2020-13-02 applied to Leonardo Model A119 and AW119 MKII helicopters with a T/R duplex bearing part number (P/N) 129-0160-11-103 installed. The NPRM published in the *Federal Register* on November 18, 2020 (85 FR 73432). The NPRM proposed to retain all of the inspection requirements and the installation prohibition of AD 2020-13-02. The NPRM also proposed to require repeating the inspection for presence of the P/N and serial number (S/N) markings of the outboard and inboard faces of T/R duplex bearing every 200 hours time-in-service (TIS). The NPRM also proposed to remove the reporting requirements required by AD 2020-13-02.

The NPRM was prompted by EASA AD No. 2020-0128, dated June 4, 2020 (EASA AD 2020-0128), issued by EASA, which is the Technical Agent for the Member States of the European Union, to correct an unsafe condition for Leonardo Model A119 and AW119MKII helicopters, S/N up to 14972 inclusive, except S/Ns 14950, 14957, 14961, 14962, 14964, 14965, 14967, and 14970. EASA AD 2020-0128 supersedes EASA Emergency AD No. 2019-0194-E, dated August 9, 2019 (EASA AD 2019-0194-E), which prompted AD 2020-13-02. EASA advises that after EASA AD 2019-0194-E was issued, Leonardo determined that additional serial-numbered helicopters are affected by the unsafe condition. EASA also advises that Leonardo canceled Emergency Alert Service Bulletin (EASB) No. 119-100, dated August 7, 2019 (EASB 119-100) and

instead included the repetitive inspections in the maintenance manual (MM).

FAA AD 2020-13-02 did not require repeating the inspection of the T/R duplex bearing installation every 200 hours TIS, as there was sufficient time to allow for notice and comment prior to this long-term action going into effect. The FAA has determined that repeating the inspection is needed to address this unsafe condition. Although Leonardo has added this action to the MM, the FAA must mandate it through an AD in order to require it for all operators. Accordingly, the FAA included this long-term requirement in the NPRM.

Comments

The FAA gave the public the opportunity to participate in developing this final rule, but the FAA did not receive any comments on the NPRM or on the determination of the cost to the public.

FAA's Determination

These helicopters have been approved by EASA and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with the European Union, EASA has notified the FAA of the unsafe condition described in its AD. The FAA is issuing this AD after evaluating all of the information provided by EASA and determining the unsafe condition exists and is likely to exist or develop on other helicopters of these same type designs and that air safety and the public interest require adopting the AD requirements as proposed.

Differences Between this AD and the EASA AD

The EASA AD is applicable to certain serial-numbered Model A119 and AW119MKII helicopters, whereas this AD applies to Model A119 and AW119 MKII helicopters with a T/R duplex bearing P/N 129-0160-11-103 installed instead. The EASA AD requires inspecting the tightening torque of the T/R plug in the range of 30.5-33.9 Nm, whereas this AD requires inspecting the tightening torque of the T/R plug to a

minimum of 30.5 Nm instead. This AD requires repeating the inspections for the presence of the P/N and S/N markings, for rough rotation, brinelling, spalling, chipping, flaking, evidence of overheated bearing balls, and damage to the races, and for damaged threads of the T/R plug and nut, at intervals not to exceed 200 hours TIS, whereas the EASA AD does not require repeating these inspections. The EASA AD requires inspecting the threads of nut P/N MS17825-7 for damage, but does not state what to do if the threads have damage. This AD requires inspecting for damage to the threads of the nut indicated by uneven threads, missing threads, or cross-threading, and if the nut has any damaged threads, removing the nut from service.

Related Service Information Under 1 CFR part 51

The FAA reviewed Leonardo EASB No. 119-105, Revision A, dated June 3, 2020 (EASB 119-105 Rev A), which specifies a one-time inspection of the tightening torque of T/R plug P/N 129-0160-45-103, and a one-time inspection for correct installation of the inboard and outboard faces of T/R duplex bearing P/N 129-0160-11-103, for damage to the threads of the T/R plug and nut P/N MS17825-7, and of the T/R duplex bearing for roughness, ease of rotation, and presence of brinelling, spalling, chipping, and flaking or traces of overheating of bearing balls, and general damage to races.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Other Related Service Information

The FAA also reviewed EASB 119-100, which specifies the same procedures as EASB 119-105 Rev A, except EASB 119-100 also specifies repeating the inspection for correct installation of the inboard and outboard faces of T/R duplex bearing P/N 129-0160-11-103, for damage to the threads of the T/R plug and nut P/N MS17825-7, and of the T/R duplex bearing for roughness, ease of rotation, and presence of brinelling,

spalling, chipping, and flaking or traces of overheating of bearing balls, and general damage to races in conjunction every 200 hours TIS or at any removal, installation, or disassembly of the T/R duplex bearing.

The FAA also reviewed Leonardo Helicopters EASB No. 119-105, dated May 18, 2020, which contains the same procedures as EASB 119-105 Rev A, except EASB 119-105 Rev A applies to additional serial-numbered helicopters.

Costs of Compliance

The FAA estimates that this AD affects 89 helicopters of U.S. Registry. Labor rates are estimated at \$85 per work-hour. Based on these numbers, the FAA estimates that operators may incur the following costs in order to comply with this AD.

Inspecting the tightening torque of the T/R plug takes about 0.5 work-hour for an estimated cost of \$43 per helicopter and \$3,827 for the U.S. fleet.

Inspecting for correct installation of the outboard and inboard faces of the T/R duplex bearing and the condition of the T/R duplex bearing, T/R plug threads, and nut threads takes about 2 work-hours for an estimated cost of \$170 per helicopter and \$15,130 for the U.S. fleet, per inspection cycle.

Assembling and installing the T/R duplex bearing assembly takes about 2 work-hours for an estimated cost of \$170 per helicopter and \$15,130 for the U.S. fleet, per inspection cycle.

If required, the parts for replacing the T/R duplex bearing, internal spacer, external spacer, bearing liner assembly, and T/R control rod cost about \$4,200, and parts for replacing the T/R plug cost about \$171.

The FAA has included all known costs in this cost estimate. However, according to Leonardo, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected operators.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA has determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by:

a. Removing Airworthiness Directive (AD) 2020-13-02, Amendment 39-21147

(85 FR 37551, June 23, 2020); and

b. Adding the following new AD:

2021-03-15 **Leonardo S.p.a.**: Amendment 39-21418; Docket No. FAA-2020-1026;
Project Identifier MCAI-2020-00745-R.

(a) Applicability

This airworthiness directive (AD) applies to Leonardo S.p.a. Model A119 and AW119 MKII helicopters, certificated in any category, with a tail rotor (T/R) duplex bearing part number (P/N) 129-0160-11-103 (T/R duplex bearing) installed.

(b) Unsafe Condition

This AD defines the unsafe condition as structural failure of the T/R assembly, possibly due to an incorrect installation. This condition could result in loss of T/R pitch change control and subsequent loss of control of the helicopter.

(c) Affected ADs

This AD replaces AD 2020-13-02, Amendment 39-21147 (85 FR 37551, June 23, 2020) (AD 2020-13-02).

(d) Effective Date

This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(e) Compliance

You are responsible for performing each action required by this AD within the specified compliance time unless it has already been accomplished prior to that time.

(f) Required Actions

(1) Within 10 hours time-in-service (TIS), remove the lockwire that secures the T/R plug P/N 129-0160-45-103 (T/R plug) to the bearing liner assembly P/N 109-0135-16-101 (bearing liner assembly). Without loosening the T/R plug first, inspect the tightening torque of the T/R plug by increasing the torque up to 30.5 Nm and inspect for any movement the moment torque is applied.

(i) If there is no movement and the tightening torque is at least 30.5 Nm, before further flight, install lockwire by following the Accomplishment Instructions, part I, paragraph 4, of Leonardo Helicopters Emergency Alert Service Bulletin (EASB) No. 119-105, Revision A, dated June 3, 2020 (EASB 119-105 Rev A).

(ii) If there is any movement or the tightening torque is less than 30.5 Nm, before further flight, comply with paragraph (f)(2) of this AD.

(2) Within 50 hours TIS, unless required before further flight by paragraph (f)(1)(ii) of this AD, and thereafter at intervals not to exceed 200 hours TIS, inspect to determine whether the P/N and serial number (S/N) are visible on the outboard and inboard faces of the T/R duplex bearing by following the Accomplishment Instructions, part II, paragraphs 4 through 13 (except paragraphs 9.1, 13.1, and 13.2), of EASB 119-105 Rev A. Instead of the excluded steps, do the following:

Note 1 to paragraph (f)(2): You are not required to discard parts and you may use equivalent tooling to that identified in EASB 119-105 Rev A.

(i) If the P/N and S/N markings are visible on the outboard or inboard face of the T/R duplex bearing, before further flight, remove from service the T/R duplex bearing, internal spacer P/N 129-0160-43-101 (internal spacer), external spacer P/N 129-0160-44-101 (external spacer), bearing liner assembly, and T/R control rod P/N 109-0135-02-101 (T/R control rod).

(ii) If the P/N and S/N markings are not visible on the inboard face of the T/R duplex bearing, before further flight, inspect the T/R duplex bearing, T/R plug, and nut by following the Accomplishment Instructions, part II, paragraphs 14 and 15 (but not paragraphs 15.1 through 15.2), of EASB 119-105 Rev A. For purposes of this inspection, damage to the races may be indicated by non-movement of the inner race, movement of the outer race, deformation, roughness, or incorrect installation; and damage to the threads of the T/R plug and nut may be indicated by uneven threads, missing threads, or cross-threading.

(A) If the T/R duplex bearing has any rough rotation, brinelling, spalling, chipping, flaking, evidence of overheated bearing balls, or damage to the races, before further flight, remove from service the T/R duplex bearing, the internal spacer, the external spacer, the bearing liner assembly, and the T/R control rod.

(B) If the T/R plug or nut has any damaged threads, before further flight, remove from service the affected part.

(C) Reassemble the T/R duplex bearing assembly by following the Accomplishment Instructions, part II, paragraphs 16 through 31, of EASB 119-105 Rev A.

(3) As of the effective date of this AD, do not install a T/R duplex bearing P/N 129-0160-11-103 on any helicopter unless you have complied with the requirements in paragraph (f)(2) of this AD.

(g) Credit for Previous Actions

(1) Accomplishment of AD 2020-13-02 before the effective date of this AD is considered acceptable for compliance with paragraph (f)(1) and the initial inspection required by paragraph (f)(2) of this AD.

(2) Actions accomplished before the effective date of this AD in accordance with the procedures specified in Leonardo Helicopters EASB No. 119-100, dated August 7, 2019, or Leonardo Helicopters EASB No. 119-105, dated May 18, 2020, are considered acceptable for compliance with the corresponding actions specified in paragraph (f)(1) and the initial inspection required by paragraph (f)(2) of this AD.

(h) Special Flight Permits

Special flight permits are prohibited.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Strategic Policy Rotorcraft Section, FAA, may approve AMOCs for this AD. Send your proposal to: David Hatfield, Aviation Safety Engineer, Aircraft Systems Section, Technical Innovation Policy Branch, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone 817-222-5110; email 9-ASW-FTW-AMOC-Requests@faa.gov.

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, the FAA suggests that you notify your principal inspector, or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office, before operating any aircraft complying with this AD through an AMOC.

(j) Additional Information

(1) Leonardo Helicopters EASB No. 119-100, dated August 7, 2019, and Leonardo Helicopters EASB No. 119-105, dated May 18, 2020, which are not incorporated by reference, contain additional information about the subject of this AD. For service information identified in this AD, contact Emanuele Bufano, Head of Airworthiness, Viale G. Agusta 520, 21017 C. Costa di Samarate (Va) Italy; telephone +39-0331-225074; fax +39-0331-229046; or at <https://www.leonardocompany.com/en/home>. You may view a copy of the service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177.

(2) The subject of this AD is addressed in European Union Aviation Safety Agency (EASA) AD No. 2020-0128, dated June 4, 2020. You may view the EASA AD on the internet at <https://www.regulations.gov> in Docket No. FAA-2020-1026.

(k) Subject

Joint Aircraft Service Component (JASC) Code: 6400, Tail Rotor System.

(l) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Leonardo Helicopters Emergency Alert Service Bulletin No. 119-105, Revision A, dated June 3, 2020.

(ii) [Reserved]

(3) For service information identified in this AD, Leonardo S.p.A. Helicopters, Emanuele Bufano, Head of Airworthiness, Viale G. Agusta 520, 21017 C. Costa di

Samarate (Va) Italy; telephone +39-0331-225074; fax +39-0331-229046; or at

<https://www.leonardocompany.com/en/home>.

(4) You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call 817-222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fedreg.legal@nara.gov, or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on January 29, 2021.

Gaetano A. Sciortino, Deputy Director for Strategic Initiatives,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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